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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,028	09/04/2003	Troy J. Tranter	B-379	8489

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EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/656,028

Applicant(s)

TRANTER ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 7-8, 10-15, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruening et al. US 6,232,265.

Regarding claims 1 and 25, Bruening '265 discloses a method for making a selectively binding particulate composition comprising dissolving a mixture of pentaerythritol and Ag/KOH catalyst, adding acrylonitrile and pouring into water; and polymerizing (see Example 3). Bruening further discloses Ag/KOH solution (see Example 3) and one of ordinary skill would expect at least some polymerized acrylonitrile and KOH to remain in the disclosed selective binding composition.

Bruening fails to specifically disclose depositing to form an adsorption medium.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to deposit and form an adsorption medium because Bruening discloses particulate solid "supports", which would motivate depositing onto the disclosed support and also because Bruening discloses making a "selectively binding" particulate composition, which would motivate forming an adsorption medium.

Regarding claims 2-5, 8, 10-12, Bruening '265 discloses Ag/KOH solution (see Example 3).

Regarding claim 7, Bruening '265 discloses nitric acid (see Example 12).

Regarding claims 13-15, Bruening discloses a solid bead support and passing the solution over a column of the particles (abstract).

Regarding claims 26-27, Bruening '265 discloses metal oxides (see claim 4) and pouring into water (see Example 3).

Regarding claim 22, Bruening '265 discloses 42.45g polymerized acrylonitrile, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use 10-85% elemental metal because Bruening '265 discloses 40% Ag/KOH, and removal by filtration, which would obviously, to one of ordinary skill, motivate 10-85% of Ag after removal of liquid by filtration with a balance of polyacrylonitrile.

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Regarding claim 6, Bruening discloses magnesium sulfate (see Example 3) and acetic acid (Example 2), which would at least suggest a sulfate or acetate anion.

Regarding claim 9, Bruening discloses 0.80 mole acrylonitrile and 0.10 tetranitrile (see Example 3).

Regarding claims 16, 23-24, Bruening '265 discloses 40% Ag/KOH, and removal by filtration, which would obviously, to one of ordinary skill, at least motivate 10-85% of Ag after removal of liquid by filtration with a balance of polyacrylonitrile.

#### ***Response to Arguments***

3. Applicant's arguments filed 12/16/05 have been fully considered but they are not persuasive.

It is argued that Bruening does not teach or suggest all... one metal hydroxide. This is not persuasive because Bruening discloses mixing the acrylonitrile to form a "solution" (Example 3), which is dissolving and Bruening '265 further discloses Ag/KOH solution (see Example 3). Applicant does not claim an adsorption medium that "remains dissolved" as Applicant appears to suggest. Rather, Applicant claims "depositing" the solution. It is noted that the features upon which applicant relies (i.e., a medium that "remains dissolved" rather than "deposited") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the

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specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that the Examiner also asserts that Example 3... form a 'solution'. This is not persuasive because Applicant appears to admit that polyacrylonitrile is disclosed, arguing only that it is not specifically disclosed as dissolved. However, in view of the disclosed "solution" of acrylonitrile, it would have been obvious to an ordinary artisan to form a PAN solution as well.

It is argued that the Examiner appears to argue that the mixture... suggests this limitation. This is not persuasive because in view of the disclosed "solution" of acrylonitrile, it would have been obvious to an ordinary artisan to form a PAN solution as well.

It is argued that Example 3 of Bruening also does not teach... one metal hydroxide. This is not persuasive because Applicant appears to admit that Bruening discloses Ag/KOH solution (see Example 3), arguing only that it is further processed to form tetrakis (5-amino-2-oxa-pentyl)methane. However, such further processing is not excluded by the claim, which employs open language, "comprising". It is noted that the features upon which applicant relies (i.e., a process wherein no tetrakis (5-amino-2-oxa-pentyl)methane is formed) are not

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recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that the Examiner states that "a recitation of the intended use... from the prior art." This is not persuasive for the reasons above.

It is argued that the Examiner acknowledges that Bruening does not teach... an adsorption medium. This is not persuasive for the reasons above.

It is argued that claim 7 is further allowable... concentrated nitric acid. This is not persuasive because Applicant appears to admit that the acid is used as a receiving liquid for eluting desired metal ions, which would at least motivate an ordinary artisan to dissolve at least one metal compound for eluting desired metal ions thereof, as disclosed.

Claims 8-13 and 15-16 are not allowable for reasons already of record.

It is argued that Bruening does not teach or suggest all of the limitations of claim 22. This is not persuasive because Applicant appears to admit that all the claimed adsorption medium ingredients are disclosed, arguing only that they may be

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further processed to form tetrakis (5-amino-2-oxa-pentyl)methane (see above).

It is argued that the Examiner states that this limitation of claim 22 is taught... polymerized acrylonitrile. This is not persuasive because claim 22 does not set forth a "particulate support" at all. Therefore, Applicant does not claim polymerized acrylonitrile "present in the particulate support". It is noted that the features upon which applicant relies (i.e., polymerized acrylonitrile "present in the particulate support") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claims 23-24 are not allowable for reasons already of record.

It is argued that as amended, claim 25 recites... in claim 1. This is not persuasive because in view of the disclosed "solution" of acrylonitrile, it would have been obvious to an ordinary artisan to form a PAN solution as well.

Claims 26-27 are not allowable for reasons already of record.

#### **Conclusion**

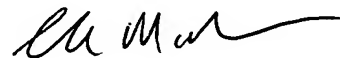


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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ